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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/559,867

DATE: 07/20/2001 TIME: 14/49:56 2001

TECHNOLOGY CENTER 2800

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3 <110> APPLICANT: Young, Michael W
             Kloss, Brian
      5
             Blau, Justin
             Price, Jeffrey
      6
      7
             Takahashi, Joseph S.
             Philip, Lowrey L.
     10 <120> TITLE OF INVENTION: A NOVEL CLOCK GENE AND METHODS OF USE THEREOF
     12 <130> FILE REFERENCE: 6,00-1-221NCP
C--> 14 <140> CURRENT APPLICATION NUMBER: US/09/559,867
C--> 15 <141> CURRENT FILING DATE: 2000-04-26
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     17 <150> PRIOR APPLICATION NUMBER: 60/090,068
     18 <151> PRIOR FILING DATE: 1998-06-19
     20 <150> PRIOR APPLICATION NUMBER: 09/335,983
     21 <151> PRIOR FILING DATE: 1999-06-18
    23 <160> NUMBER OF SEQ ID NOS: 42
     25 <170> SOFTWARE: PatentIn Ver. 2.0
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58 acttgcttta tatatgcggt

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Input Set : A:\600221nc.app

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75 Leu His Ile Glu Ser Lys Phe Tyr Lys Thr Met Gln Gly Gly Ile Gly
                            55
78 Ile Pro Arg Ile Ile Trp Cys Gly Ser Glu Gly Asp Tyr Asn Val Met
81 Val Met Glu Leu Leu Gly Pro Ser Leu Glu Asp Leu Phe Asn Phe Cys
                                        90
                    85
84 Ser Arg Arg Phe Ser Leu Lys Thr Val Leu Leu Ala Asp Gln Met
87 Ile Ser Arg Ile Asp Tyr Ile His Ser Arg Asp Phe Ile His Arg Asp
                               120
90 Ile Lys Pro Asp Asn Phe Leu Met Gly Leu Gly Lys Lys Gly Asn Leu
                           135
                                               140
93 Val Tyr Ile Ile Asp Phe Gly Leu Ala Lys Lys Phe Arg Asp Ala Arg
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96 Ser Leu Lys His Ile Pro Tyr Arg Glu Asn Lys Asn Leu Thr Gly Thr
                   165
                                       170
99 Ala Arg Tyr Ala Ser Ile Asn Thr His Leu Gly Ile Glu Gln Ser Arg
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                                    185
102 Arg Asp Asp Leu Glu Ser Leu Gly Tyr Val Leu Met Tyr Phe Asn Leu
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105 Gly Ala Leu Pro Trp Gln Gly Leu Lys Ala Ala Asn Lys Arg Gln Lys
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108 Tyr Glu Arg Ile Ser Glu Lys Lys Leu Ser Thr Ser Ile Val Val Leu
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                                            235
111 Cys Lys Gly Phe Pro Ser Glu Phe Val Asn Tyr Leu Asn Phe Cys Arg
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                                        250
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117 Phe Arg Asn Leu Phe His Arg Leu Gly Phe Thr Tyr Asp Tyr Val Phe
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                                280
120 Asp Trp Asn Leu Leu Lys Phe Gly Gly Pro Arg Asn Pro Gln Ala Ile
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123 Gln Gln Ala Gln Asp Gly Ala Asp Gly Gln Ala Gly His Asp Ala Val
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129 Gln Gln Gln His Lys Val Asn Ala Ala Leu Gly Gly Gly Gly Ser
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Input Set : A:\600221nc.app

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135 Gly Asn Gly Gly Gly Asn Gly Ser Gln Leu Ile Gly Gly Asn Gly Leu	Arg	Ala		Gln	Gln	Leu	Gln		Gly	Gln	Thr	Leu		Met	Leu	Gly
136									_		_	_				
130	Gly		Gly	Gly	Gly	Asn	_	Ser	Gln	Leu	Ile	_	Gly	Asn	Gly	Leu
139 385 390 395 400 141 Asp Thr Pro Glu Arg Arg Pro Ser Ile Arg Met Arg Gln Gly Gly Gly Gly 142 405 410 415 415 416 415 416 415 416 415 416 415 416 415 425 430 430 435 435 430 435 435 430 435 435 430 435 43								_					_	_		_
141 Asp Thr Pro Glu Arg	 	Met	Asp	Asp	Ser		Ala	Ala	Thr	Asn		Ser	Arg	Pro	Pro	_
142																
144 Gly Gly Gly Gly Gly Gly Val Gly Val Gly Val Gly Gly Gly Met Gln Ser Gly Gly Gly 145	Asp	Thr	Pro	Glu		Arg	Pro	Ser	Ile		Met	Arg	Gln	GTA		Gly
145 420 425 430 431 440	_	_	_										_			
147 Gly Gly Gly Val Gly Asn Ala Lys 148	Gly	Gly	Gly		Gly	Val	Gly	Val		Gly	Met	Gln	Ser	_	Gly	GIA
148	_							_	425					430		
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154																
155					40											
157					_											
158 Met Glu Leu Arg Val Gly Asn Lys Tyr Arg Leu Gly Arg Lys Lys Tle Gly 159					A											
159						a 1	_	_	_	_	_	- 1		_	~1.	a 1
161 Ser Gly Ser Phe Gly Asp Ile Tyr Leu Gly Thr Thr Ile Asn Thr Gly 162		GLu	Leu	Arg	۷aı	GLY	Asn	Lys	lyr		Leu	GTĀ	Arg	Lys		GIY
162 20 20 25 25 30 30 41 164 454 416 4			_	51 .	- 5		-1-				m1	m1	-1-	•		a1
164 Glu Glu Val Ala Tle Lys Leu Glu Cys Tle Arg Thr Lys His Ser Glu Glo	ser	GIY	ser		GTĀ	Asp	тте	Tyr		GIY	Thr	Thr	тте		Thr	GIY
165	-1	~ 7			-1	_	_	- 1		- 1	_	1	_		a	a 1.
167 Leu His Tle Glu Ser Lys Phe Tyr Lys Thr Met Gln Gly Gly Ile Gly 110	GLu	Glu		Ala	тте	ьуs	Leu		Cys	TTE	Arg	Thr		HIS	ser	GIn
168	_			a1 .	a	•	D1		T	m l	10-14	a1		01	T1.	01
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171 65	-1-			-1-	- 1-	m		a 1	a	a 1	41			•	77_ 7	N4++
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177 100 105 110 1	Com	A mar	7 ~~	Dha		T 011	T vec	Thr	17.5.1	-	Ton	Lou	715	N an		Mot
179	ser	ALG	AIG		ser	ьеu	гуу	1111		ьeu	ьeu	ьeu	нта		GIII	Mec
180 115 120 125 125 126 125 126 125 126 128 140 128 140 128 140 128 140 128 140 128 140 128 140 128 140 128 140 128 140 128 140 128 140 128 140 128 140 128 140 128 129 128 129 128 129 128 129 129 129 129 129 129 129 129 129 129 129 129 129 129 1	T10	Cor	λκα		Nen	ጥ፣ረም	בוד	Wie		λνα	λen	Dho	Tla		λνα	Aen
182 Ile Lys Pro Asp Pro Asp Asp Pro Borne Leu Met Gly Leu Gly Lys Lys Gly Asp Leu 183 130 135 140 140 140 183 140 183 140 184 185 185 180 185 180 180 185 180 <td< td=""><td>TIE</td><td>261</td><td>_</td><td>116</td><td>rsp</td><td>ı yı</td><td>116</td><td></td><td>261</td><td>nry</td><td>лэр</td><td>FIIC</td><td></td><td>1113</td><td>пта</td><td>uph</td></td<>	TIE	261	_	116	rsp	ı yı	116		261	nry	лэр	FIIC		1113	пта	uph
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185 Val Tyr Ile Ile Asp Phe Gly Leu Ala Lys Lys Phe Arg Asp Ala Arg 186 145 145 150 150 155 160 188 Ser Leu Lys His Ile Pro Tyr Arg Glu Asn Lys Asn Leu Thr Gly Thr Interval	110	_	110	пор	ASII	1110		ncc	OI,	DCu	OT,	_	ш, 5	O.L.y	11011	пса
186 145 150 155 160 188 Ser Leu Lys His Ile Pro Tyr Arg Glu Asn Lys Asn Leu Thr Gly Thr 189 165 170 175 191 Ala Arg Tyr Ala Ser Ile Asn Thr His Leu Gly Ile Glu Gln Ser Arg 180 185 190 190 194 Arg Asp Asp Leu Glu Ser Leu Gly Tyr Val Leu Met Tyr Phe Asn Leu 195 195 205 205 197 Gly Ala Leu Pro Trp Gln Gly Leu Lys Ala Ala Asn Lys Arg Gln Lys 215 220 220 200 Tyr Glu Arg Ile Ser Glu Lys Lys Leu Ser Thr Ser Ile Val Val Leu 215 235 240 203 Cys Lys Gly Phe Pro Ser Glu Phe Val Asn Tyr Leu Asn Phe Cys Arg	Val		Tlo	Tle	Δen	Dhe		T.OII	Δla	T.ve	T.v.c		Δrα	Δsn	Δla	Δrσ
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189 165 170 170 175 175 191 Ala Arg Tyr Ala Ser Ile Asn Thr His Leu Gly Ile Glu Ser Arg 192 193 180 180 185 185 190 190 190 190 194 Arg Asp Asp Leu Glu Ser Leu Gly Tyr Val Leu Met Tyr Phe Asn Leu 195 195 200 200 205 205 205 205 198 205 198 Arg Gln Gly Leu Lys Ala Ala Asn Lys Arg Gln Lys Lys Leu Ser Thr Ser Ile Val Leu Leu 220 220 220 220 240 235 240 240 240 235 240 240 240 240 240 240 240 240 240 240 240 2		T.e.u	Lvc	Hic	Tle		Tur	Δrσ	Glu	Δsn		Asn	Leu	Thr	Glv	
191 Ala Arg Tyr Ala Ser Ile Asn Thr His Leu Gly Ile Glu Gln Ser Arg 192	501	n c u	210				-1-									
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194 Arg Asp Asp Leu Glu Ser Leu Gly Tyr Val Leu Met Tyr Phe Asn Leu 195		9	-1-		-						1					,
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198 210 215 220 200 Tyr Glu Arg Ile Ser Glu Lys Lys Leu Ser Thr Ser Ile Val Val Leu 201 225 230 235 240 203 Cys Lys Gly Phe Pro Ser Glu Phe Val Asn Tyr Leu Asn Phe Cys Arg	Glv	Ala		Pro	Trp	Gln	Glv		Lvs	Ala	Ala	Asn		Arg	Gln	Lvs
200 Tyr Glu Arg Ile Ser Glu Lys Lys Leu Ser Thr Ser Ile Val Val Leu 201 225 230 235 240 203 Cys Lys Gly Phe Pro Ser Glu Phe Val Asn Tyr Leu Asn Phe Cys Arg	1				<u>-</u>				-1-3				-1-	د		. –
201 225 230 235 240 203 Cys Lys Gly Phe Pro Ser Glu Phe Val Asn Tyr Leu Asn Phe Cys Arg	Tyr		Arq	Ile	Ser	Glu		Lys	Leu	Ser	Thr		Ile	Val	Val	Leu
203 Cys Lys Gly Phe Pro Ser Glu Phe Val Asn Tyr Leu Asn Phe Cys Arg																
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233 Asp Thr Pro Glu Arg Arg Pro Ser Ile Arg Met Arg Gln Gly Gly Gly
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277 145
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283
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291 Tyr Glu Arg Ile Ser Glu Lys Lys Leu Ser Thr Ser Ile Val Val Leu
292 225
                        230
                                             235
294 Cys Lys Gly Phe Pro Ser Glu Phe Val Asn Tyr Leu Asn Phe Cys Arg
                    245
297 Gln Met His Phe Asp Gln Arg Pro Asp Tyr Cys His Leu Arg Lys Leu
298
                260
                                    265
300 Phe Arg Asn Leu Phe His Arg Leu Gly Phe Thr Tyr Asp Tyr Val Phe
            275
                                 280
303 Asp Trp Asn Leu Leu Lys Phe Gly Gly Pro Arg Asn Pro Gln Ala Ile
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                            295
                                                 300
306 Gln Gln Ala Gln Asp Gly Ala Asp Gly Gln Ala Gly His Asp Ala Val
                        310
                                             315
309 Ala Ala Ala Ala Ala Val Ala Ala Ala Ala Ala Ser Ser His Gln
312 Gln Gln Gln His Lys Val Asn Ala Ala Leu Gly Gly Gly Gly Ser
                                                         350
313
                340
                                    345
315 Arg Ala Gln Gln Gln Leu Gln Gly Gly Gln Thr Leu Ala Met Leu Gly
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318 Gly Asn Gly Gly Asn Gly Ser Gln Leu Ile Gly Gly Asn Gly Leu
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319
                             375
321 Asn Met Asp Asp Ser Met Ala Ala Thr Asn Ser Ser Arg Pro Pro Tyr
                                             395
322 385
                        390
324 Asp Thr Pro Glu Arg Arg Pro Ser Ile Arg Met Arg Gln Gly Gly Gly
                    405
                                         410
327 Gly Gly Gly Gly Gly Val Gly Val Gly Met Gln Ser Gly Gly Gly
                420
328
330 Gly Gly Gly Val Gly Asn Ala Lys
331
            435
334 <210> SEQ ID NO: 5
335 <211> LENGTH: 72
336 <212> TYPE: DNA
337 <213> ORGANISM: Drosophila melanogaster
339 <400> SEQUENCE: 5
340 ataqqatcqq qatcqttcqq cqacatctac ctqqqcacca cqatcaacac tqqcqaqqaq 60
341 gtggccatca ag
343 <210> SEQ ID NO: 6
344 <211> LENGTH: 24
345 <212> TYPE: PRT
346 <213> ORGANISM: Drosophila melanogaster
348 <400> SEOUENCE: 6
349 Ile Gly Ser Gly Ser Phe Gly Asp Ile Tyr Leu Gly Thr Thr Ile Asn
```

in the <220> to <223> fields of each sequence

7/20/01

Use of n and / or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to ensure a corresponding explanation is present

using n or Xaa.

VERIFICATION SUMMARY

DATE: 07/20/2001

PATENT APPLICATION: US/09/559,867

TIME: 14:19:37

Input Set : A:\600221nc.app

Output Set: N:\CRF3\07202001\1559867.raw

L:14 M:270 C: Current Application Number differs, Replaced Current Application Number

L:15 M:271 C: Current Filing Date differs, Replaced Current Filing Date L:1348 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40